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United States Patent [19]

Licht et al.

[11] **Patent Number:** **5,472,807**[45] **Date of Patent:** **Dec. 5, 1995**[54] **ALUMINUM-FERRICYANIDE BATTERY**[75] **Inventors:** **Stuart L. Licht**, Charlton City, Mass.;
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4,563,403	1/1986	Julian	429/198
4,668,347	5/1987	Hobermann et al.	204/33
5,182,178	1/1993	Brizendine et al.	429/160

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429/223**[58] **Field of Search** **429/188, 206,
429/207, 223**[56] **References Cited****U.S. PATENT DOCUMENTS**

4,180,623 12/1979 Adams 429/21

37 Claims, 5 Drawing Sheets[57] **ABSTRACT**

A battery capable of producing high current densities with a high charge capacity is described which includes an aluminum anode, a ferricyanide electrolyte and a second electrode capable of reducing ferricyanide electrolyte which is either dissolved in an alkaline solution or alkaline seawater solution. The performance of the battery is enhanced by high temperature and high electrolyte flow rates.

